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| 10/708,739 | 03/22/2004 | David Elder | RP-002 | 2738 |
| 34253 | 7590 | 08/06/2004 | EXAMINER | |
| TANGENT LAW GROUP 1201 PENNSYLVANIA AVE WASHINGTON, DC 20004 | | | TIBBITS, PIA FLORENCE | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2838 | |

DATE MAILED: 08/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/708,739 | ELDER ET AL. | |
| | Examiner | Art Unit | |
| | Pia F Tibbits | 2838 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) 30-62 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-27 and 29 is/are rejected.
- 7) ☒ Claim(s) 15, 20 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is in answer to the election filed 7/21/2004. Claims 1-62 are pending, and claims 1-29 are elected.

1. Examiner notes, and agrees with applicant's comments that the instant application is an utility application and the restriction is governed by the rules set forth in MPEP §803, and the restricted groups are patentably distinct inventions under the provisions of MPEP §806.05 and related under MPEP §806.05(c) as combination/subcombination. Applicant's election of Group I claims 1-29 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse. **MPEP 818.03** (a) states that "As shown by the first sentence of 37 CFR 1.143, the traverse to a requirement must be complete as required by 37 CFR 1.111(b) which reads in part: "In order to be entitled to reconsideration or further examination, the applicant or patent owner must reply to the Office action. The reply by the applicant or patent owner must be reduced to a writing which distinctly and specifically points out the supposed errors in the examiner's action and must reply to every ground of objection and rejection in the prior Office action. The applicant's or patent owner's reply must appear throughout to be a bona fide attempt to advance the application or the reexamination proceeding to final action."

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the klaxon, the horn, the light, the plurality of lights, the LCD panel, the simulated human voice, the human voice, the light emitting diode, the plurality of light emitting diodes, "the one-way charging diode...comprises an at least one SCR" (fig.8c describes an SCR, not a diode and an SCR), the signal processor, the lookup tables, the memory device, the security protocol /encryption element, the VI sensor, etc. must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being

Art Unit: 2838

amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed, since the claims reciting the network-controlled multiple battery system were withdrawn.
4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. For example, in paragraph [0114] "the...battery is...couple" needs to be corrected. For example, "The embodiment utilizes a configuration similar to that of Figure 813, save for the use of the SCR 4000" is not correct since there is no figure 813.
5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter: "coupled...to a point....beyond"; "the one-way charging diode...comprises an at least one SCR" (the specification describes an SCR shown in fig. 8c, there is no mention of a diode comprising and SCR), "short periods", etc. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction is required.

Claim Objections

6. Claims 14 and 15 are essentially duplicate of each other. Applicant is advised that should claim 14 be found allowable, claim 15 will be objected to under 37 CFR 1.75 as being a substantial duplicate

Art Unit: 2838

thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

7. Claim 20 is objected to because of the following informalities: "element." should be corrected to read "element". Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-8, 17, 20, 27 are rejected under 35 U.S.C. 102(e) as being anticipated by **McDermott et al.** [hereinafter McDermott][6545445].

McDermott discloses in figures 1-8 a multiple battery system 100 comprising: a main battery 102; at least one auxiliary battery 104; and a main electrical circuit 106 comprising a coupling of a common positive terminal [no reference number] with an at least one switching device 122, the at least one switching device having at least two operating positions to selectively couple the main and at least one auxiliary battery to the common positive terminal, wherein a first operating position of the at least two operating positions provides electrical charge to both the main battery 102 and the at least one auxiliary battery 104; and a controller 108 coupled to the main electrical circuit and switching said at least one switching device based on input from an at least one sensor 116 and 118. The patent clearly discloses that when vehicle engine is running, the alternator charges both the main battery 102 and the auxiliary battery 104. When the vehicle engine is turned off, the circuit switch between the main battery 102 and the auxiliary battery 104 removes/electrically isolates the main battery 102 from the circuit so that

Art Unit: 2838

neither the DC loads, nor the auxiliary battery 104 can drain power from the main battery 102. [see also column 3, lines 36-43]. McDermott does not disclose the main battery 103 having a main positive output and a main negative output; and the at least one auxiliary battery 105 having an at least one auxiliary positive output and an at least one auxiliary negative output.

With regard to the limitation of having the main battery including a main positive output and a main negative output, and the auxiliary battery including an at least one auxiliary positive output and an at least one auxiliary negative output: it is an inherent function of a battery to have a main positive output and a main negative output, and MPEP 2100 states that the disclosure of a limitation may be expressed, implicit or **inherent**.

As to claim 2, see reference and remarks for claim 1.

As to claim 3, the statement "the common positive terminal is **coupled** through the at least one switching device **to a point** in the main electrical circuit, **beyond** the one-way charging circuit, that couples to the auxiliary positive output" was interpreted to mean that the common positive terminal is separate from the switching device in order to continue prosecution [see also fig.1].

As to claims 4-6, see reference and remarks for claims 1-3.

As to claim 7, McDermott discloses a display 124 to show the amount of power remaining in the battery [see also fig.1; column 3, line 24].

As to claim 8, McDermott discloses that display 124 includes of one or more LED lights, an audible beep or tone [see also fig.1; column 3, lines 23-35].

As to claim 17, see reference and remarks for claims 1-3.

As to claim 20, see reference and remarks for claims 1-3. Additionally, McDermott discloses a microprocessor for ECU 108 [see also column 4, line 42].

As to claim 27, McDermott discloses ECU module 108 can control the discharge of auxiliary battery 104. The amount of discharge of starter battery 102 may be restricted by ECU module 108 by sending an open switch signal at a predetermined time or based upon monitored parameters [see also column 4, lines 52-58].

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 9-12, 18, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over **McDermott**, as described above.

McDermott discloses a multiple battery system comprising a main battery having a main positive output and a main negative output; at least one auxiliary battery having an at least one auxiliary positive output and an at least one auxiliary negative output; and a main electrical circuit comprising a coupling of a common positive terminal with an at least one switching device, the at least one switching device having at least two operating positions to selectively couple the main and at least one auxiliary battery to the common positive terminal, wherein a first operating position of the at least two operating positions provides electrical charge to both the main battery and the at least one auxiliary battery; a controller coupled to the main electrical circuit and switching said at least one switching device based on input from an at least one sensor; a first operating position of the at least two operating positions that couples the common positive terminal to the main positive output of the main battery and the common positive terminal to a one-way charging circuit that precedes and is coupled to the at least one auxiliary positive output on the at least one auxiliary battery; and the common positive terminal is separate from the switching device. McDermott does not disclose the indicator element being a plurality of indicator elements having at least one of a red, orange, green, or amber color.

As to claim 9, the LED's colors being red, orange, green, or amber color: the use of red, orange, green, or amber color LED's, absent any criticality, is only considered to be the use of "optimum" or "preferred" LED that a person having ordinary skill in the art at the time the invention was made using

Art Unit: 2838

routine experimentation would have found obvious to provide for the LED's, since it has been held to be a matter of **obvious design choice** and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention in order to better alert a user of the amount of power remaining in the battery . See *In re Leshin*, 125 USPQ 416. Under some circumstances, however, changes such as these may impart patentability to a process if the particular design claimed produce a new and unexpected result which is different in kind and not merely in degree from the results of the Prior Art. *In re Dreyfus*, 22 CCPA (Patents) 830, 73 F.2d 931, 24 USPQ 52; *In re Waite et al.*, 35 CCPA (Patents) 1117, 168 F.2d 104, 77 USPQ 586. Such designs are termed "critical" designs, and the applicant has the burden of proving such criticality. *In re Swenson et al.*, 30 CCPA (Patents) 809, 132 F.2d 1020, 56 USPQ 372; *In re Scherl*, 33 CCPA (Patents) 1193, 156 F.2d 72, 70 USPQ 204. However, even though applicant's modification results in great improvement and utility over the Prior Art, it may still not be patentable if the modification was within the capabilities of one skilled in the art. *In re Sola*, 22 CCPA (Patents) 1313, 77 F.2d 627, 25 USPQ 433; *In re Norman et al.*, 32 CCPA (Patents) 1248, 150 F.2d 627, 66 USPQ 308; *In re Irmischer*, 32 CCPA (Patents) 1259, 150 F.2d 705, 66 USPQ 314. More particularly, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable design by routine experimentation. *In re Swain et al.*, 33 CCPA (Patents) 1250, 156 F.2d 239, 70 USPQ 412; *Minnesota Mining and Mfg. Co. v. Coe*, 69 App. D.C. 217, 99 F. 2d 986, 38 USPQ 213; *Allen et al. v. Coe*, 77 App. D. C. 324, 135 F.2d 11, 57 USPQ 136.

As to claim 10, McDermott discloses an upper housing 402 containing the main battery, and a lower housing 404 containing the auxilliary battery. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to make integral the housing for the two batteries, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routing skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

Art Unit: 2838

As to claims 11 and 12, the main battery compartment being located atop the at least one auxiliary battery compartment, or the main battery compartment being located aside, absent any criticality, is only considered to be an obvious modification as it has been held by the courts that there would be no invention in shifting the location of a structure of a device to another location if the operation of the device would not thereby be modified. *In re Japikse*, 86 USPQ 70.

As to claim 18, see reference and remarks for claims 1-3. Additionally, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a plurality of auxiliary batteries, in order to meet the user's needs, since it has been held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) and MPEP 2144.04.

As to claim 29, the multiple batteries being one of a six-volt, a twelve-volt, a fourteen-volt, and a twenty-four volt battery electrical system: it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide a selection for the voltage of the multiple batteries in order to optimally accommodate the user's system, since it has been held that discovering an "optimum" or "preferred" value for a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

12. Claims 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **McDermott**, as described above, in view of **Bromley et al.** [hereinafter Bromley][5487956].

McDermott discloses a multiple battery system comprising a main battery having a main positive output and a main negative output; at least one auxiliary battery having an at least one auxiliary positive output and an at least one auxiliary negative output; and a main electrical circuit comprising a coupling of a common positive terminal with an at least one switching device, the at least one switching device having at least two operating positions to selectively couple the main and at least one auxiliary battery to the common positive terminal, wherein a first operating position of the at least two operating positions provides electrical charge to both the main battery and the at least one auxiliary battery; a controller coupled to the main electrical circuit and switching said at least one switching device based on input from

Art Unit: 2838

an at least one sensor; a first operating position of the at least two operating positions that couples the common positive terminal to the main positive output of the main battery and the common positive terminal to a one-way charging circuit that precedes and is coupled to the at least one auxiliary positive output on the at least one auxiliary battery; and the common positive terminal is separate from the switching device. McDermott does not disclose a one-way charging diode.

Bromley discloses a multiple battery system where the auxiliary/backup battery 105 charging current is provided through a steering and polarity protection diode 119 [see also column 3, lines 15-20]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify McDermott's apparatus and include a diode in the charging path of the auxiliary battery, as disclosed by Bromley, in order to provide steering and polarity protection.

13. Claim 14, 16, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **McDermott** and **Bromley**, as described above, in view of **Dougherty et al.** [hereinafter Dougherty][5162164].

To continue prosecution it was assumed that the unidirectional current path through the one-way charging diode needs an overcurrent protection device, such as an SCR/thyristor, to selectively limits current through the diode.

McDermott and Bromley disclose a multiple battery system comprising a main battery having a main positive output and a main negative output; at least one auxiliary battery having an at least one auxiliary positive output and an at least one auxiliary negative output; and a main electrical circuit comprising a coupling of a common positive terminal with an at least one switching device, the at least one switching device having at least two operating positions to selectively couple the main and at least one auxiliary battery to the common positive terminal, wherein a first operating position of the at least two operating positions provides electrical charge to both the main battery and the at least one auxiliary battery; a controller coupled to the main electrical circuit and switching said at least one switching device based on input from an at least one sensor; a first operating position of the at least two operating positions that couples the common positive terminal to the main positive output of the main battery and the common positive terminal to a one-way charging circuit that precedes and is coupled to the at least

Art Unit: 2838

one auxiliary positive output on the at least one auxiliary battery; the common positive terminal is separate from the switching device; and a one-way charging diode. McDermott and Bromley do not disclose the one-way diode.

Dougherty discloses in a dual battery system that a unidirectional current path 108 suitably comprises a diode 110 and an overcurrent protection device 112, suitably a variable resistor, polyswitch, solid state transistor, SCR/thyristor, or any device which selectively limits current through the diode [see also column 13, lines 1-10]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify McDermott's and Bromley's apparatus and include an overcurrent protection device such as an SCR, as disclosed by Dougherty, in order to selectively limit current through the one-way charging diode.

As to claim 16, an SCR, an alternative name for the reverse blocking triode thyristor, it is an inherent function of the SCR to disable the coupling with the at least one auxiliary battery, and MPEP 2100 states that the disclosure of a limitation may be expressed, implicit or **inherent**.

As to claim 19, McDermott discloses that Electronics Control Module 108 receives current input 116 from shunt 114, and voltage input 118 from starter battery 102. Upon detecting a start event, the ECU 108 sends a close switch signal via switch control 120 to high current switch 122, connecting starter battery 102 to parallel circuit 106 [see column 4, lines 44-49].

14. Claims 21-26 are rejected under 35 U.S.C. 102(e) as being anticipated by **McDermott**, as described above, in view of **Hollenberg** [5694335].

McDermott discloses a multiple battery system comprising a main battery having a main positive output and a main negative output; at least one auxiliary battery having an at least one auxiliary positive output and an at least one auxiliary negative output; and a main electrical circuit comprising a coupling of a common positive terminal with an at least one switching device, the at least one switching device having at least two operating positions to selectively couple the main and at least one auxiliary battery to the common positive terminal, wherein a first operating position of the at least two operating positions provides electrical charge to both the main battery and the at least one auxiliary battery; a controller

Art Unit: 2838

coupled to the main electrical circuit and switching said at least one switching device based on input from an at least one sensor; a first operating position of the at least two operating positions that couples the common positive terminal to the main positive output of the main battery and the common positive terminal to a one-way charging circuit that precedes and is coupled to the at least one auxiliary positive output on the at least one auxiliary battery; and the common positive terminal is separate from the switching device. McDermott does not disclose a one-way charging diode.

Hollenberg discloses in figures 1-21 a wireless controller system including a transceiver 26, an indicator element 20D, an input device 13C connected to a LAN network in order to be able to remotely disconnect the power supply from certain controlled vehicle system circuits [see also the abstract; column 2, line 55]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify McDermott's apparatus and include a wireless network-controlled controller system, as disclosed by Hollenberg, in order to be able to remotely disconnect the power supply from certain controlled vehicle system circuits.

As to claim 25, the network interfaceable controller being in communication with a Network Operations Center (NOC) via a network, absent any criticality, is only considered to be an obvious modification of the LAN disclosed by Hollenberg in column 2, line 55, as the courts have held that a change in shape or configuration, without any criticality, is within the level of skill in the art as the particular configuration claimed by applicant is nothing more than one of numerous configurations that a person having ordinary skill in the art will find obvious to provide using routine experimentation based on its suitability for the intended use of the invention. See *In re Dailey*, 149USPQ 47 (CCPA 1976).

As to claim 26, the network interfaceable controller couples to and communicates with the at least one switching device to detect the position of the at least one switching device and selectively engages the at least one switching device based on the input of at least one of an at least one main battery voltage sensor, an at least one main battery amperage sensor, an at least one auxiliary battery voltage sensor, and an at least one auxiliary amperage sensor, it is an inherent function of McDermott's controller/microprocessor to couple and to communicate with the at least one switching device to detect

Art Unit: 2838

the position of the at least one switching device and selectively engages the at least one switching device based on the input of at least one of an at least one main battery voltage sensor, an at least one main battery amperage sensor, and MPEP 2100 states that the disclosure of a limitation may be expressed, implicit or **inherent** [see column 4, lines 44-49].

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related apparatus.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is (571) 272-2086. If unavailable, contact the Supervisory Patent Examiner Mike Sherry whose telephone number is (571) 272-2084. The Technology Center Fax number is (703) 872-9306.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFT

August 2, 2004

Pia Tibbits

Primary Patent Examiner

